

REMARKS and ARGUMENT

This paper is in response to the first Office Action, which was mailed April 11, 2003 with regard to the above-identified application. This response is being filed within the three-month period set for reply in the Office Action. A Supplemental Information Disclosure Statement, a Fee form and a check to cover the calculated fee accompany this response. Authorization is provided to charge any additional fee associated with this response, or to credit any overpayment, to Deposit Account No. 50-0573.

Claims 2 – 10, 12 – 26, 28 – 44 and 46 - 53 are pending in the application. The indication that claims 11 – 13, 22, 23, 27, 28, 38 – 43 and 45 would be allowable if rewritten in independent form including all of the elements of the base claims from which they depend is noted with appreciation. The allowance of claims 29 – 36, 46 and 47 is also appreciated.

Claim 1 has been cancelled. Dependent claim 11 has been cancelled and re-presented as new claim 48. Various claims that originally depended from claim 1 now depend from re-presented claim 48. Dependent claim 27 has been cancelled and re-presented as new claim 49. Each of the re-presented claims includes all of the subject matter of the respective claims from which they originally depended. New claim 50 includes subject matter similar to that of cancelled dependent claim 45. No new matter has been added by the amendment.

Rejections under 35 USC § 102(b) based on White

The Office Action includes a rejection of claims 1 – 5, 10, 16, 18, 20 and 37 under 35 USC § 102(b) as allegedly anticipated by White. White describes a diagnostic device that measures ambient temperature and the high side and low side pressures of an air conditioning system. The White device analyzes the high and low side pressures to determine if the air conditioning system is working properly. (See column 11, lines 57 – 61.) If it is determined that the system is not working properly, the device prompts the user to perform qualitative tests, such as checking the condition of the discharge air or the condition of the sight glass. The device generates yes/no questions relating to the conditions observed by the user. In response to the questions, the user must manually input answers using buttons on the device.

The Office Action indicates that the subject matter of original claim 11 is allowable over White and the other references cited. This subject matter has been re-presented as new claim 48. Claims 2 – 10 and 12 – 20 each directly or indirectly depend from new claim 48. Therefore, it is believed that each of these claims is also allowable.

Claim 37 has been amended to recite that the plurality of operating parameters obtained from the refrigerant based system includes a temperature change across at least one of an accumulator, a metering device and a condenser. Support for the amendment can be found in the specification, for example, on page 13, line 22 through page 14, line 18 and page 20, line 24 through page 21, line 22. Some of these measurements are also recited in claim 14, as originally filed. The step of obtaining temperature changes across components of the refrigerant based system allows for more thorough analysis of the system than does the device of White, which measures only low side pressure, high side pressure and ambient temperature. The present invention, as recited in claim 37, is, therefore, distinguishable from White. Other prior systems, such as that of Proctor, contemplate limited measurement of temperatures within an air conditioner system. However, the references of record do not describe or suggest the comprehensive measurement of temperatures across components that can be utilized by the present invention, such as those recited in claim 37. Therefore, claim 37 is believed to be allowable over White and the other references of record.

Rejections under 35 USC § 102(b) based on Tabata

Claims 21 and 26 have been rejected as allegedly anticipated by Tabata. These claims have been amended to recite that the display of the probe is coupled to the infrared sensor by a flexible support. Written support for the amendment can be found in the present application, for example, at page 6, lines 23 – 25. The flexible support permits the infrared sensor to be positioned to take temperature measurements, even in locations about a refrigerant based system where it would be difficult for a user to see the reading. By including a flexible support, the sensor may be positioned to take the temperature measurement, while the display is still easily observable by the user. Tabata does not describe such a feature. For at least this reason, claims 21, 26 and their dependent claims are patentable over Tabata.

Rejections Under 35 USC § 103(a)

Claims 6, 7 – 9, 14, 15, 17 and 19 have been rejected as allegedly obvious over White in combination with Proctor, Chou, Renders, Hieb, Clough or Pfefferle, the latter references having been cited for the alleged disclosure of features recited in the dependent claims. Each of these claims now depends, either directly or indirectly, from re-presented claim 48, which was formerly allowable claim 11. For at least the reasons that claim 11 has been deemed allowable, these claims are also believed to be allowable over the prior art of record.

Claim 44 has been rejected based on the combination of White and Pfefferle. Claim 44 depends from amended claim 37 and is believed to be allowable for at least the reasons discussed above with regard to that claim.

Claims 24 and 25 have been rejected over the combination of Tabata and Takaki. Each of these claims depends from claim 21, which has been amended to recite a flexible support. Tabata, Takaki and the other references of record do not suggest the use of a flexible support for coupling an infrared sensor to a display as recited in claim 21. For at least this reason, claims 24 and 25 are also believed to be patentable over the art of record.

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Conclusion

It is believed that the pending claims are patentable over the cited prior art. Therefore, it is respectfully requested that the present rejections and objections be reconsidered and withdrawn. If direct communication will expedite the allowance of the application, the Examiner is invited to telephone the undersigned attorney for applicant.

Respectfully submitted,

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